REMARKS

Applicant has thoroughly considered the Examiner's remarks in the January 24, 2005 Office action and the subsequent Advisory action and has amended the application to more clearly set forth the invention. Claims 1 and 5-8 have been amended by this Amendment C. Reconsideration of this RCE application as amended and in view of the following remarks is respectfully requested.

In addition to correcting typographical errors in the specification, this Amendment C amends the specification and drawings to address the Examiner's rejection regarding the functional recitation in the specification and claim 1. Applicant has added more technical descriptions/explanations especially related to the advantages of the present invention, the technical effects achieved, and the technical problems solved by the present invention, which are distinct from the prior art. The amendments clarify, or fill out, the subject matter of the present application as filed, including the subject matter as shown in and described in connection with FIGS. 6 and 6A. Inasmuch as the present application supports the amendments to the specification and drawings, they do not constitute new matter.

Claims 1-8 stand rejected under 35 U.S.C. § 103 as being unpatentable over Spitz et al., U.S. Patent No. 6,060,776 in view of Spitz et al., U.S. Patent No. 6,667,545.

Amended claim 1 recites a solder platform 17 that has an anchor mechanism 11, which is equipped with an acclivitous shoulder 12 and a kink 13. According to the claim, the mechanism 11 can absorb the stress generated by epoxy package 8 and

provide a longer path for moisture to reach the die 16. As such, the invention prevents moisture from reaching the die 16 directly even if moisture enters the gap existing between the shoulder 12 and the passivative film 10.

Applicant submits the kink 13 is a unique technical feature of the subject invention and is not taught or suggested by any prior art, and the effects achieved by the kink 13 of the subject invention cannot be found in the cited references. More specifically, the prior art devices involve the problem of damaging the die 16 due to plastic deformation 22 generated by stress (referring to Figs. 7 and 7A and corresponding contents in the specification). However, the present invention can avoid the problem of damaging the die 16 and totally absorb stress by the unique design of the kink 13, the solder platform 17, and the base 18 (referring to Figs. 8 and 8A and corresponding contents in the specification). On the other hand, the present invention can create complete seal interface 23 and 24 in order to avoid any unwanted gap generated and improve the ability of the die 16 against the moisture entered and extend the lifetime of the die 16 (referring to Figs. 9 and 10 and corresponding contents in the specification). For these reasons, applicant submits claim 1, and claims 2-8 depending therefrom, are allowable over the cited art.

Applicant submits that the prior art devices involve the problem of damaging the die 16 due to larger plastic deformation 22 generated by stress (Referring to Figs. 7 and 7A and corresponding contents in the specification). However, the present invention can avoid the problem of damaging the die 16 and totally absorb stress by the unique design of the kink 13, the solder platform 17 and the base 18 (referring to Figs. 8 and 8A and corresponding contents in the specification). On the other hand, the

present invention can create complete seal interface 23 and 24 in order to avoid any un-wanted gap generated and improve the ability of the die 16 against the moisture entered and extend the lifetime of the die 16 (referring to Figs. 9 and 10 and corresponding contents in the specification).

In order to prove that the present invention has the better effect of avoiding the problem of damaging the die 16 and the better function of absorbing/releasing stress compared with the cited patent US 6,060,776, the applicant has carried out an experiment of the simulation test for the present invention and the cited US patent under the same conditions. Enclosed please find 6 pages of color stress diagrams (labeled 1A-1C and 2A-2C). The first group (i.e. 1A-C, *in which all upper left-hand-side points of the structures in the 3 diagrams are numbered 177*) is designated for the simulation test of the subject invention, and the second group (i.e. 2A-C, *in which all upper left-hand-side points of the structures in the 3 diagrams are numbered 139*) is designated for the simulation test of the cited patent US 6,060,776.

Specifically, the detailed meanings and explanations of these diagrams are as follows:

(a) Diagrams 1A and 2A:

First of all, at the very beginning of the time, there is no deformation generated and pressure affected in either structure, when the stress (indicated by the red arrows) only starts to be applied touching the surface (2-7-8-9-10-11) in both structures.

(b) Diagrams 1B and 2B:

Then, both structures have deformations on the right-hand-side surfaces and solder platforms 17, individually. It can be clearly seen where the deformations are on the right-hand-side surfaces, especially focusing on the line (19-24-23-22-21-20-15-18-17-16-12-14-13-6-11-10-9-8-7) shifted in both structures. More importantly, please note the solder platform 17 *(i.e., on the surface of the line 69-75-74-73-72-71 of the subject invention (referring to diagram 1B) and on the surface of the line 60-66-65-64-63-62 of the cited patent (referring to diagram 2b))* and the deformations generated on these two platforms.

First, referring to diagram 1B, which represents the subject invention, assume that the deformation at the point 69 is zero (i.e., looking from the point 69 direction to the right-hand-side). According to the information shown in the figure, the maximum deformation (DMX), which is indicated as a white-line-protruded on the platform around the points 75 and 74, is 0.733E-06 (i.e., 0.733×10^{-6}).

Second, according to the information shown in the diagram 2B, the DMX, indicated as a white-line-protruded on the platform around the points 64 and 63, is 0.768E-06 (i.e., 0.768×10^{-6}), assuming there is no deformation at the point 60 similarly.

As the subject invention has a smaller deformation compared with the one in the cited patent ($0.733 \times 10^{-6} \square 0.768 \times 10^{-6}$), and this advantage/technical effectiveness is achieved by the unique structure, the kink 13, disclosed in the subject invention. Thus, any conventional art, including the cited patent, must have more chance of damaging the die during the manufacturing process. However, because of the smaller

deformation occurring on the platform 17 in the subject invention, it can avoid damaging the die 16. Therefore, since the cited patent does not teach or suggest the structure kink 13, it cannot achieve the technical effects of having smaller deformation as that in the subject invention, thus, applicant submits that presents invention as claimed is not taught by the prior art of record.

(c) Diagrams 1C and 2C:

Furthermore, please refer to those stress-distribution figures, and note that the stress-distribution has a significant drop (or absorb) at the location of the kink 13 in the subject invention compared with that in the cited patent. More specifically, according to diagram 1C, the stress suffered at the location of the kink 13 is only 0.525E-07 (i.e., $0.525x10^{-7}$); however, as shown in diagram 2C, the stress suffered at the similarly location without the kink 13 in the cited patent is up to 0.143E-06 (i.e., $0.143x10^{-6}$). Obviously, the value of the stress suffered at the specific location in the subject invention is smaller than that in the cited patent ($0.525x10^{-7}$□$0.143x10^{-6}$), thus showing that the function of the structure kink 13 can release/absorb the stress generated during the manufacturing process much better than the prior art teachings.

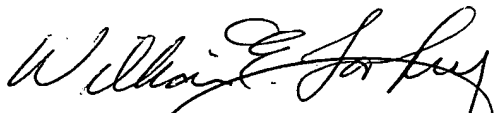
In view of the above, this simulation test report (i.e., all analysis and explanation of the diagrams) emphasizes and proves that the subject invention has better technical effectiveness (including stress absorbing and capability of avoiding damaging the die) than the cited patent, and those advantages are achieved SPECIFICALLY on the **unique structure of the kink 13** as claimed in claims 1-8.

CONCLUSION

In view of the foregoing, applicant respectfully submit that claims 1-8 are in condition for allowance and respectfully requests favorable reconsideration of this application as amended. The fact that applicant may not have specifically traversed any particular assertion by the Office should not be construed as indicating applicant's agreement therewith.

It is believed that no fees are due in connection with this Amendment C other than the RCE fee of $395.00 and extension of time fees of $510.00 which are being paid by check for $905.00 submitted herewith. If, however, the Commissioner determines a fee is due, he is hereby authorized to charge said government fees to Deposit Account No. 19-1345.

Respectfully submitted,



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WEL/lrw

Amendments to the Drawings:

The attached sheets of drawings includes changes to FIGS. 6, 6A, 7, 7A, 8, 8A, 9, and 10. These sheets replace the original sheet including FIGS. 6 and 6A and add sheets including FIGS. 7, 7A, 8, 8A, 9, and 10. In particular, FIGS. 6 and 6A have been amended by adding the reference numeral 11, which indicates the anchor mechanism.

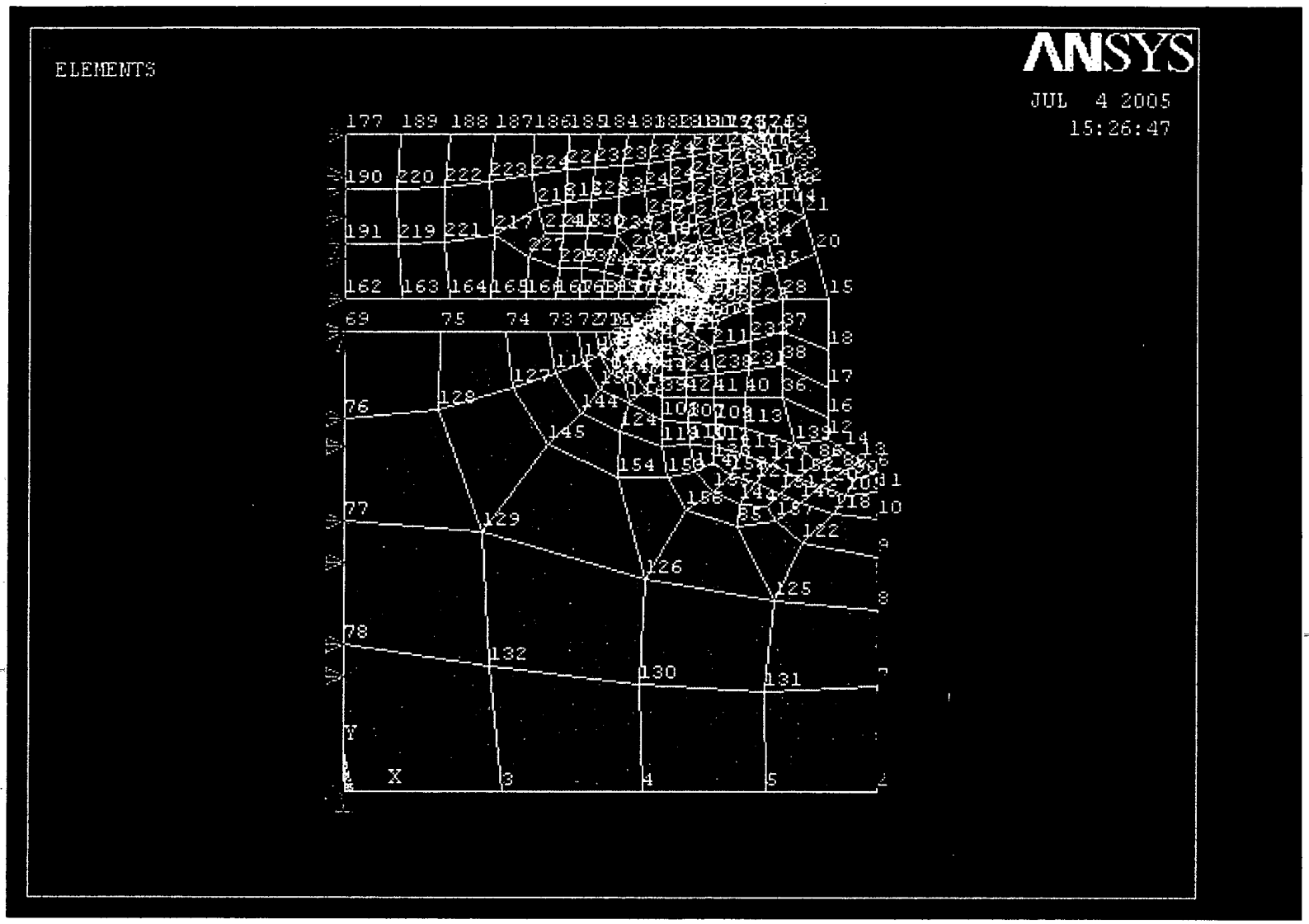
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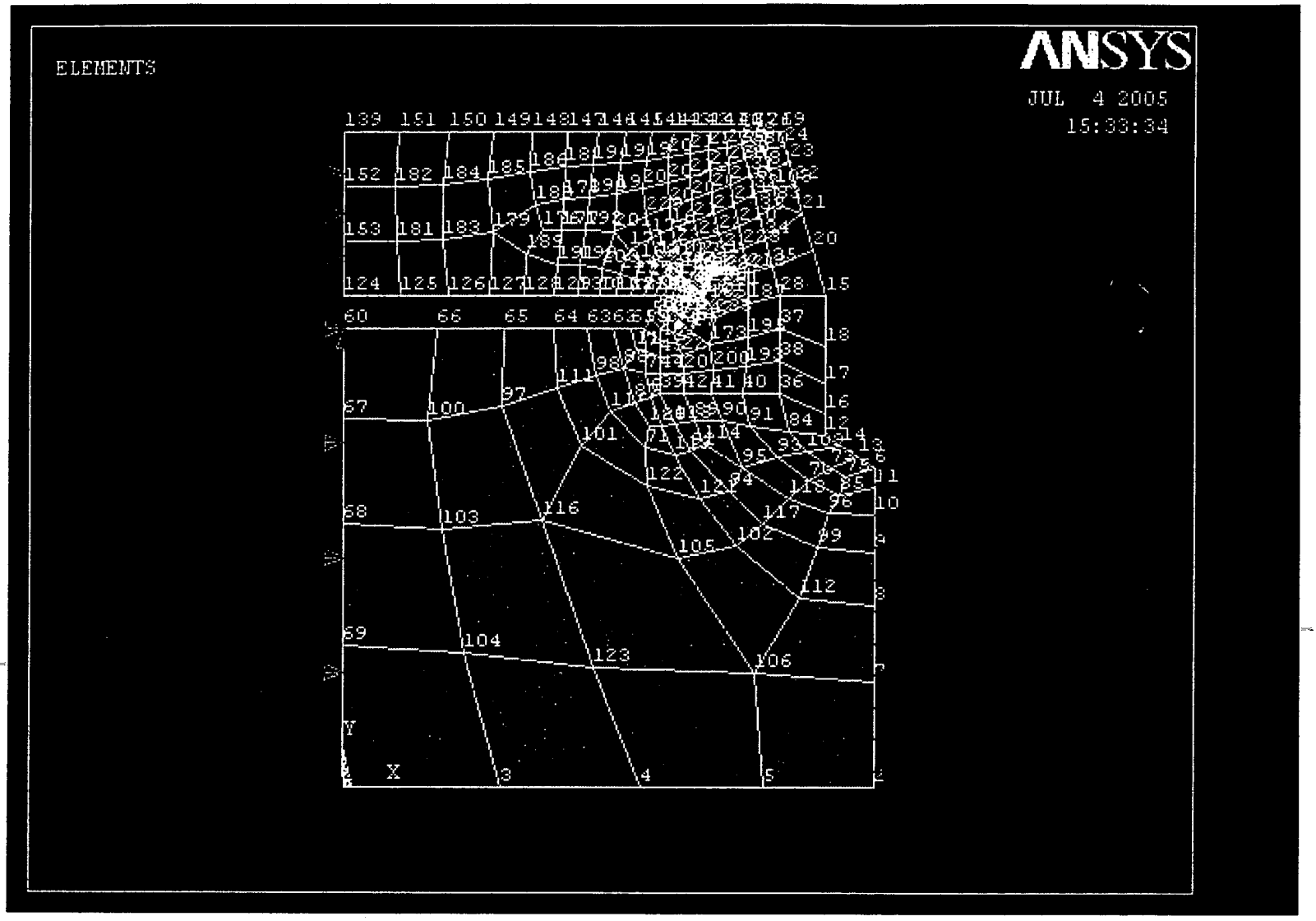
DIAGRAM 1A



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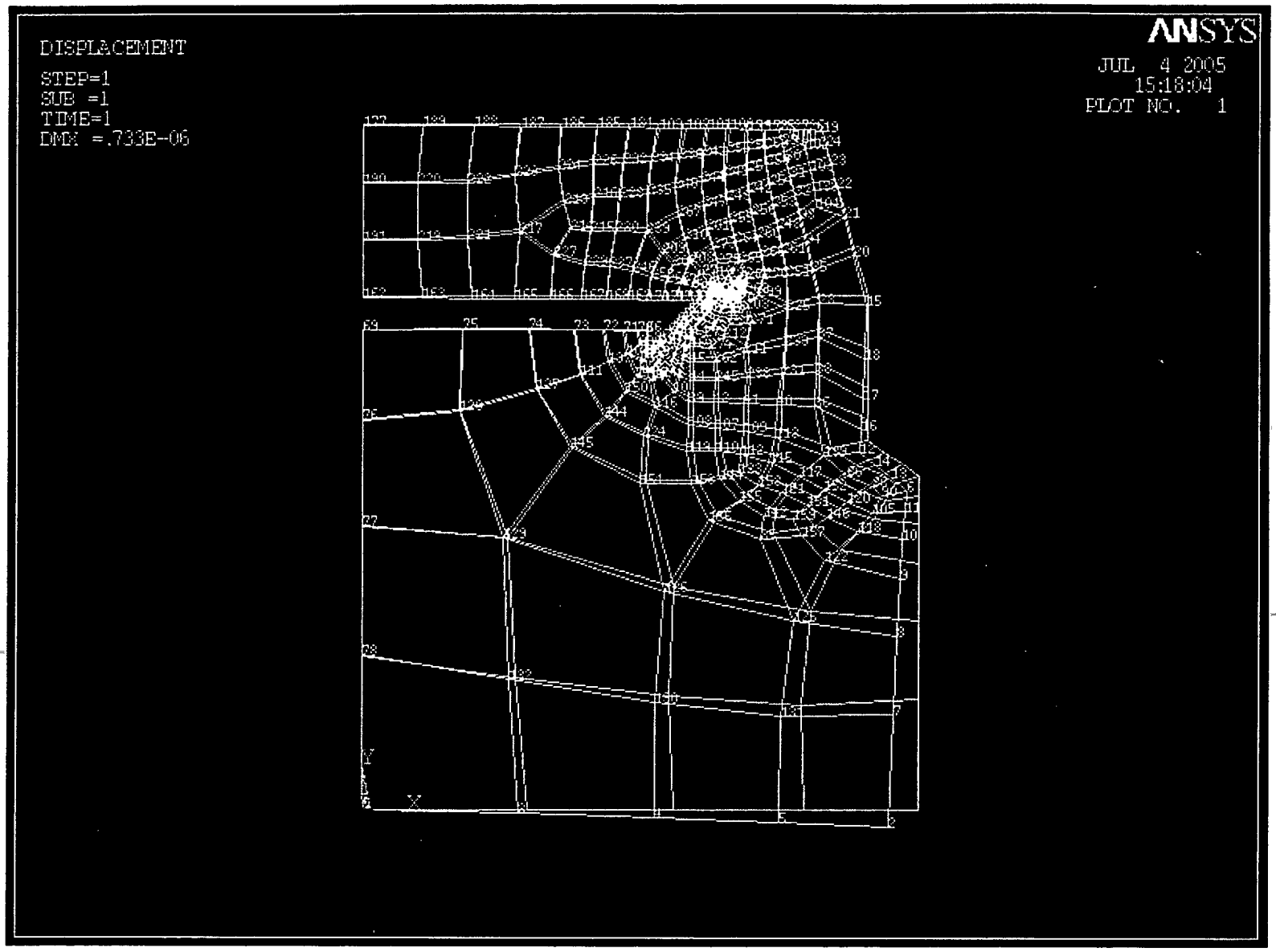
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DIAGRAM 1B


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DIAGRAM 1C

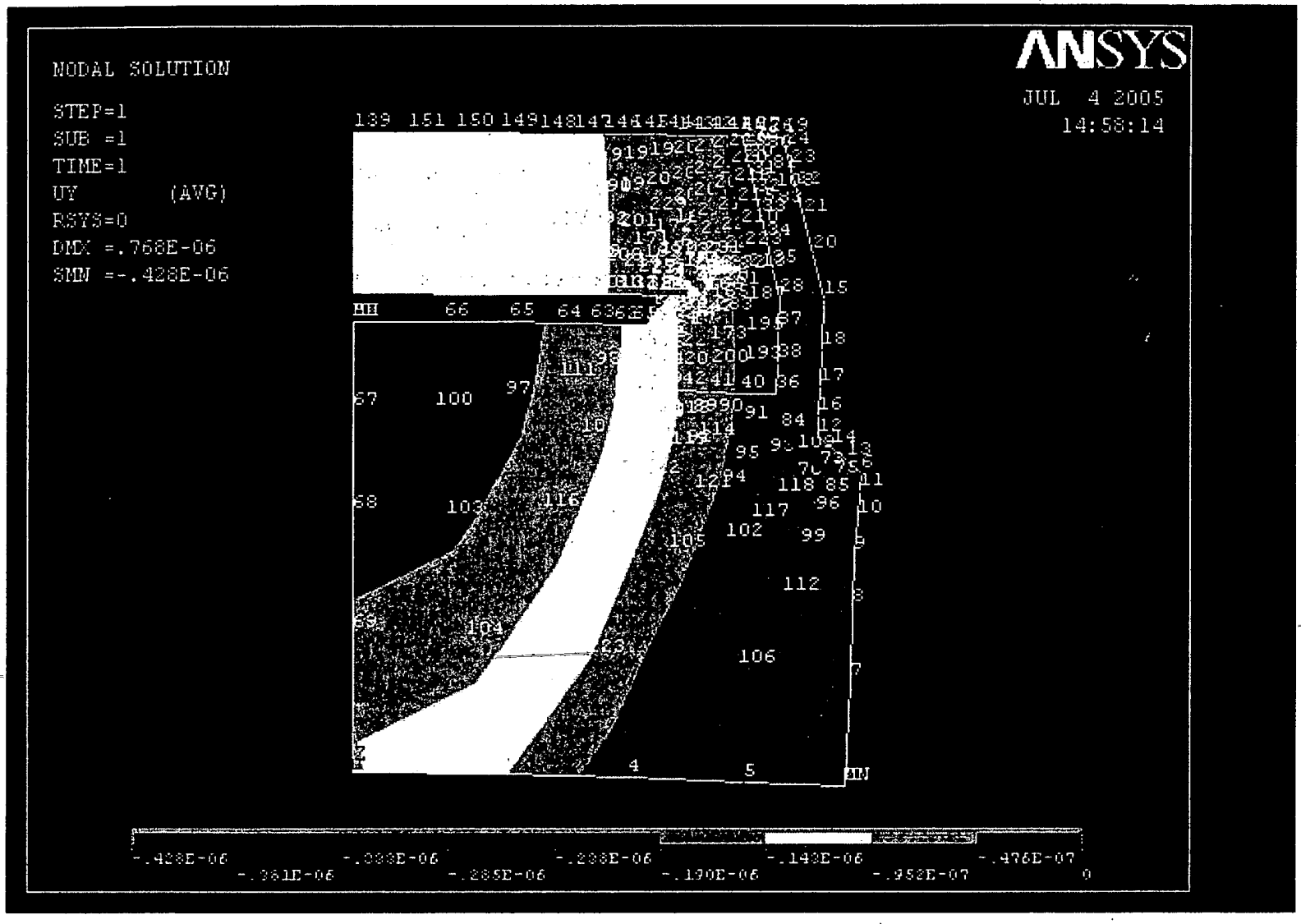
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DIAGRAM 2C

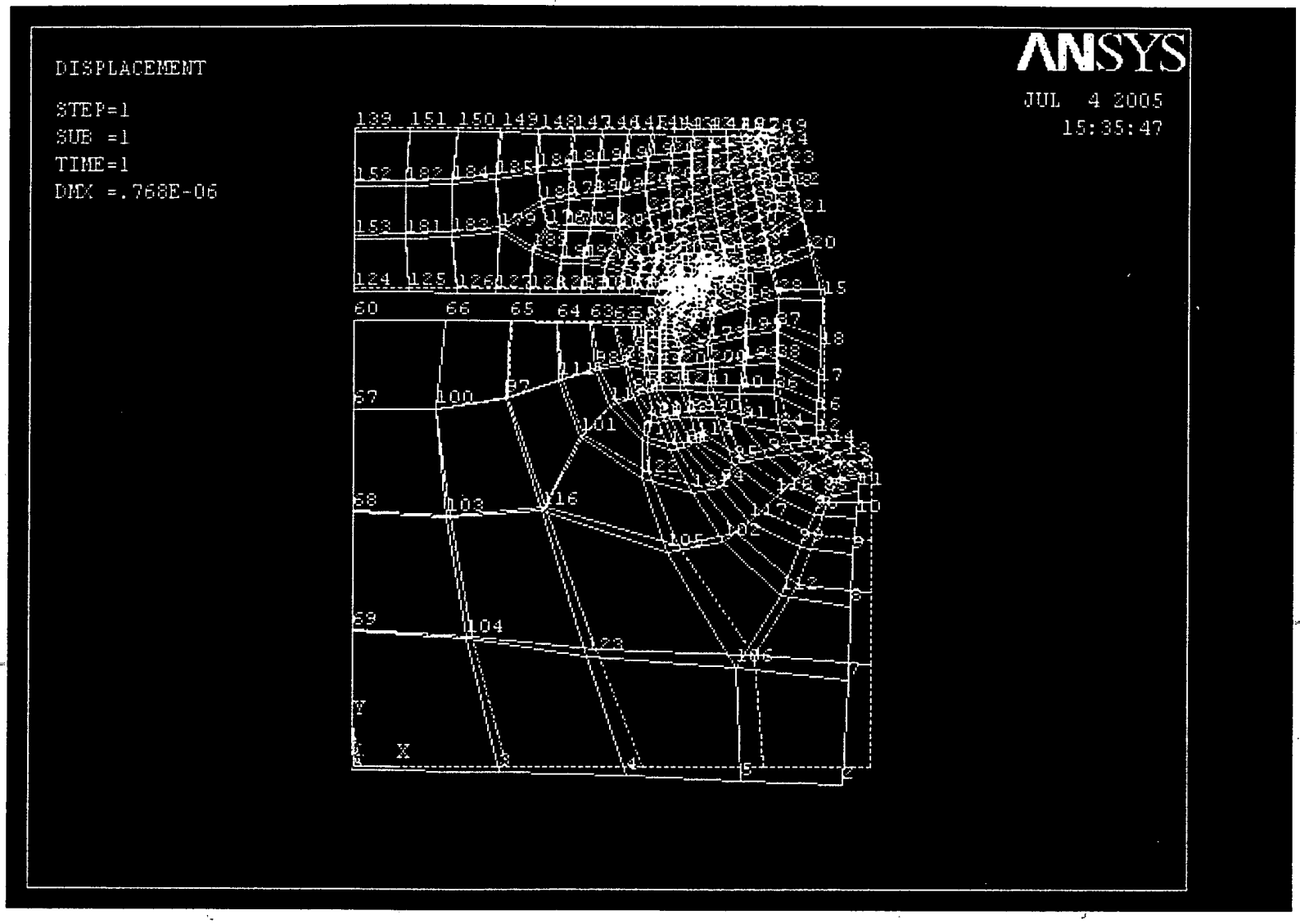
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DIAGRAM 2B